

By the end of this chapter, you should be able to:

- define international trade
- identify and explain the gains from trade
- define and give examples of specialization and the division of labour
- HL** define, explain, illustrate, and give examples of absolute advantage
- HL** define, explain, illustrate, and give examples of comparative advantage
- HL** calculate opportunity costs to identify comparative advantage
- HL** explain the limitations of comparative advantage theory
- describe the objectives and functions of the World Trade Organization (WTO).

The gains from international trade

International trade is the exchange of goods and services between countries. There are a number of gains to be made from international trade and we should consider them at this point.

- 1 **Lower prices:** The main gain from trade is the ability to buy goods and services at a lower price than the domestic one. Consumers are able to buy less expensive products and producers are able to purchase less expensive raw materials and semi-manufactured goods. This is the main reason for trade.

Prices may be lower in some countries than others because of access to natural resources, differences in the quality of the labour forces, or differences in the quality of capital and the levels of technology. The cause of these lower prices is mainly determined by the concept of comparative advantage, which is a higher level topic and is dealt with in the next section.
- 2 **Greater choice:** International trade enables consumers to have a greater choice of products. They now have access not just to domestically produced products, but also to products that come from a number of different countries.
- 3 **Differences in resources:** Different countries possess different resources. There are some resources that a country may need, but quite simply does not have. For example, many countries do not possess copper, diamonds, or oil naturally. However, they may need them in order to produce other products and so have no option but to import the commodities they lack. To do this, they will need to export goods or services, in order to earn foreign currency and so buy the required resources.

Some countries, such as Singapore, have very few natural resources and so are dependent on trade for their survival, economic growth, and well-being. Singapore has to import almost every natural resource, even water! However, Singapore is able to



export high levels of manufactured goods and services in order to fund their imports.

- 4 *Economies of scale:* When producing for an international market, as well as for a domestic one, the size of the market, and thus demand, will increase. This means that the level of production and the size of production units will also increase.

As we know from Chapter 6, the increased levels of production should provide scope for economies of scale to be achieved and production should become more efficient. Also, larger production units will enable the amount of specialization to increase. When firms are large, individuals may specialize in specific, narrower tasks, such as accounting manager or marketing manager, and they should become more knowledgeable and so more efficient. Larger production units will also lead to greater scope for the division of labour. This is where a production process is broken down into a number of simple and basic tasks. Workers may then concentrate on a small, repetitive task and achieve a high degree of efficiency.

In addition, if countries specialize in the production of certain commodities, such as chemicals, there will be cost benefits to be gained from acquiring experience and expertise. This is known as moving down the “learning curve” (the long-run average cost curve).

International trade, and with it larger markets and production units, should enable production in a country’s export industries to become more efficient in the long run. It should also make the producers more competitive. It should lead to a reduction in long-run average costs.

- 5 *Increased competition:* International trade may lead to increased competition, as domestic firms compete with foreign firms. This should lead to greater efficiency and may mean that consumers gain by being offered less expensive goods and services. It is also likely that the quality and variety of goods available to consumers will increase, with increased competition.
- 6 *More efficient allocation of resources:* When international trade takes place freely, without government interference, then the countries that are best at producing certain goods and services will produce them; they will be able to produce these goods and services at the lowest cost and take advantage of their efficiency. If this happens in all of the different trading countries, then it is fair to assume that the world’s resources are being used most efficiently when free trade is taking place.
- 7 *Source of foreign exchange:* International trade enables countries to obtain foreign exchange. If a country exports products, then that country will be paid in foreign currencies. For example, when Ghana sells gold and cocoa to the Netherlands, it will be paid in euro, which it can then use to buy essential products from abroad, such as industrial machinery or petroleum. This is especially important to countries such as Ghana which do not have a convertible currency – one which can be freely exchanged for other

currencies on the world market. As it lacks a convertible currency, the only way that Ghana can buy goods from abroad is if it manages to sell goods abroad first, thus getting hold of foreign exchange. So, it should be clear that an important gain from international trade to all countries, but especially developing countries, is that it gives them a source of foreign exchange that can then be used to purchase goods and services from other countries.

Putting together the seven points above, it is clear that there are huge gains to be achieved from trade. As a concluding comment, it is fair to say that for all the reasons listed above, international trade can make a major contribution to a country's economic growth. We now look at a more theoretical approach to international trade theory for higher level students.

Student workpoint 21.1

Be a thinker

Make a list of goods that you commonly use that are imported. This can include food, clothing, electronics, etc. If possible, identify the source of the good.

HL Comparative advantage theory

We have already said that there are many advantages to international trade. But which goods should a country produce for export and which goods should it import? The answer to this question lies in the concept of comparative advantage.

Absolute advantage

Let us start by looking at the concept of absolute advantage. A country is said to have an absolute advantage in the production of a good if it can produce it using fewer resources than another country.

Table 21.1 shows the production outcomes where two countries, Australia and China, are using the same quantities of resources to produce lamb and cloth.

Country	Kilos of lamb	Metres of cloth
Australia	6	1
China	4	3
Total without trade	10	4

Table 21.1 Absolute advantage

It is clear from the table that Australia has an absolute advantage in producing lamb and that China has an absolute advantage in the production of cloth.

In this situation, the answer to our previous question, "Which goods should a country produce for export and which goods should it import?" is simple. Australia should specialize in the production of lamb and China should specialize in the production of cloth. The output of both products will be maximised when the countries specialize and, after trading, both countries will gain.

Australia would produce lamb and, if it doubled its resources, then assuming constant returns to scale, total output from the resources would be 12 kilos, an increase of 2 kilos. In the same way, China, with twice as many resources and constant returns to scale, would have a total output from its resources of 6 metres of cloth, an increase of 2 metres. Thus total output of both goods has risen, following specialization.

The situation above, where each country has an absolute advantage in the production of one product, is known as reciprocal absolute advantage.

Comparative advantage

The whole concept of absolute advantage seems obvious, but what happens if there is not a situation of reciprocal absolute advantage as shown in the above example? In the early nineteenth century, David Ricardo was the first economist to prove mathematically that trade could still be beneficial to both countries when one of the countries had an absolute advantage in producing all goods. Ricardo considered the opportunity cost of production and used this to explain the concept of comparative advantage.

A country is said to have a comparative advantage in the production of a good if it can produce the good at a lower opportunity cost than another country. In other words, country A has to give up fewer units of other goods to produce the good in question than does country B.

This is best shown by an example. Table 21.2 shows the production outcomes where two countries, France and Poland, are using the same quantities of resources to produce wine and cheese.

Country	Litres of wine	Opportunity cost of 1 litre of wine	Kilos of cheese	Opportunity cost of 1 kilo of cheese
France	3	$\frac{4}{3}$ kilos of cheese	4	$\frac{3}{4}$ litre of wine
Poland	1	3 kilos of cheese	3	$\frac{1}{3}$ litre of wine

Table 21.2 Comparative advantage

This shows that France has an absolute advantage in the production of both goods. However, in terms of comparative advantage, France has a comparative advantage in the production of wine and Poland has a comparative advantage in the production of cheese.

This is because France only has to give up $\frac{4}{3}$ kilos of cheese to produce a litre of wine, whereas Poland has to give up 3 kilos, but Poland only has to give up $\frac{1}{3}$ litre of wine to produce a kilo of cheese, whereas France has to give up $\frac{3}{4}$ litre of wine.

The theory of comparative advantage tells us that France should specialize in the production of wine and Poland should specialize in the production of cheese. France will then consume the wine that they wish and use any extra wine to exchange for cheese. In the same way, Poland will consume the cheese that it wants and use any extra cheese to exchange for wine.

The situation can also be shown on a simple diagram as in Figure 21.1, using simplified production possibilities curves.

Figure 21.1 shows the same information as Table 21.2. However, even without the information in Table 21.2, it is possible to use Figure 21.1 to show comparative advantage.

In simple terms, when a country has an absolute advantage in producing both goods, as France has here, and the scale of the axes is the same, the comparative advantage for the better producer is in

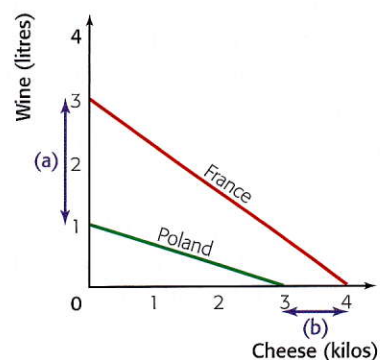


Figure 21.1 Production possibilities curves to show comparative advantage

the good where the distance between the production possibilities is greatest, shown by (a) in the diagram, and the comparative advantage for the less efficient producer is in the good where the distance between the production possibilities is least, shown by (b) in the diagram. Thus, as we know, France has the comparative advantage in producing wine and Poland has the comparative advantage in producing cheese.

This is not a mathematical justification, but simply a useful trick to employ when using diagrams such as this. The real reason relates to the relative slopes of the lines, since it is the slope of the lines that shows the opportunity costs, which in this model is always shown as constant opportunity cost (straight line PPC).

One point to bear in mind is that the theory of comparative advantage works so long as the opportunity costs faced by the two countries are different. If the two countries face the same opportunity costs (shown by parallel PPCs), then there would be no point in trade taking place. This situation is shown in Table 21.3 and Figure 21.2.

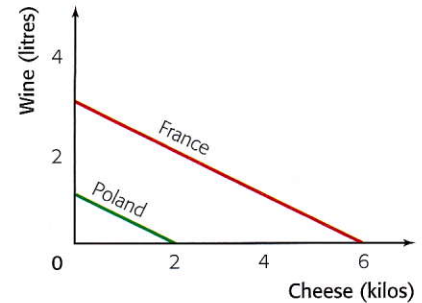


Figure 21.2 Identical opportunity costs

Country	Litres of wine	Opportunity cost of 1 litre of wine	Kilos of cheese	Opportunity cost of 1 kilo of cheese
France	3	2 kilos of cheese	6	$\frac{1}{2}$ litre of wine
Poland	1	2 kilos of cheese	2	$\frac{1}{2}$ litre of wine

Table 21.3 Identical opportunity costs

As we can see in Figure 21.2, if the slopes of the two production possibilities curves are the same, then opportunity costs for each country will be identical, and there will be no gains to be made by trading.

Student workpoint 21.2

Be a thinker—consider the information below and answer the questions that follow.

Using the same quantities of resources, to produce rice and cloth, China and Pakistan have the following production outcomes:

Country	Kilos of rice	Opportunity cost of 1 kilo of rice	Metres of cloth	Opportunity cost of 1 metre of cloth
China	5		4	
Pakistan	3		3	

- 1 Calculate the opportunity costs for the table.
- 2 Draw a diagram to illustrate the information in the table.
- 3 Should trade take place between China and Pakistan? Why?
- 4 In which product should each country specialize? Why?

What gives a country a comparative advantage?

To a large extent, comparative advantage is based on a country's factor endowments. A country that is "endowed" with a large amount of arable land may develop a comparative advantage in agricultural products. A country with abundant unskilled labour can develop its comparative advantage in the production of

labour-intensive, low-skilled, manufactured goods. A country with abundant well-educated labour may have a comparative advantage in the output of financial services. A country with beautiful beaches and a favourable climate may develop its comparative advantage in the output of tourist services, illustrating that “climate” can actually be a factor of production! The abundance of a particular factor will make the price of this factor relatively lower than the price of other factors, thereby allowing the opportunity cost of the goods or services using that factor to be lower than it would be in other countries.

Student workpoint 21.3

Be an inquirer

Find out the main export of five different countries. Identify the abundant factor of production which could give the country a comparative advantage in this product.

David Ricardo (1772–1823)

David Ricardo was born in London into a Dutch-Jewish family in April, 1772. At a young age, and without a great deal of formal education, he joined his father working at the London Stock Exchange. When he married a Quaker woman his orthodox Jewish family disinherited him and broke off all contact.

At the age of 27, Ricardo read Adam Smith’s famous work, *The Wealth of Nations*, and this encouraged him to further study political economy. It was 10 years before he was first published, in 1809, when he contributed to *The Monthly Chronicle* on the issue of inflation in England and the “bullion controversy”. His views represent early monetarist thought that the inflation was caused by the willingness of the Bank of England to issue excessive amounts of bank notes.

Ricardo was very successful at the stock exchange and made a fortune as a stockbroker and loan broker. He purchased a country estate in Gloucestershire and moved there on his retirement from business in 1814. In 1815, Ricardo’s publication, *Essay on the Influence of the Low Price of Corn on the Profits of Stock*, presented the theory now known as the law of diminishing returns. His study of the relationship between labour, capital, and land in agriculture led him to the conclusion, now well-known, that as increasing amounts of labour and machinery are used on a fixed area of land, additions to total output will eventually diminish.

Ricardo’s most famous work was *Principles of Political Economy and Taxation*, published in 1817. At the time,

the protectionist British Corn Laws were in place to restrict imports of wheat into Britain. In examining comparative costs between different producers, Ricardo arrived at the conclusions that are known today as the theory of comparative advantage. His famous case study, now presented widely to economics students, looked at the production of wine and cloth in England and Portugal. Although Portugal might be better at producing both wine and cloth, Ricardo showed that both countries would benefit if each specialized and they traded freely. He was thus an early advocate of free trade.

In the same publication, Ricardo made another of his important contributions to economic thought, his explanation of the theory of rents. In studying the production of food and the need to feed increasing populations by using less productive areas of land, Ricardo was able to show that it would be landowners who would benefit from population growth the most, as they would be able to extract high levels of rent.

Throughout his career, Ricardo was influenced by his friendships with James Mill, Jeremy Bentham, and Thomas Malthus, important names in nineteenth-century economic, political, and philosophical thought. Ricardo died in 1823, at the age of 51. In a relatively short career of 14 years as a “professional” economist, he made several lasting contributions to the economic theory that we study today.



Limitations of the theory of comparative advantage

Comparative advantage theory is based upon a number of assumptions, which tend to limit the application of the theory in real life.

- 1 As in perfect competition, it is assumed that the producers and consumers have perfect knowledge and are aware of where the least expensive goods may be purchased.
- 2 It is usually assumed that there are no transport costs. However, in reality, this is not true. The existence of transport costs may

erode a country's comparative advantage and not make international trading worthwhile, since it may eliminate its competitiveness.

- 3 Basic theories assume that there are only two economies producing two goods. However, this is not such a problem. The theory may be applied to more countries and more products and it is still possible to discern where the comparative advantages lie. The use of computer simulations has made the multi-country/multi-product analysis much easier to conduct.
- 4 It is usually assumed that costs do not change and that the returns to scale are constant, i.e. there are no economies or diseconomies of scale. However, the existence of economies of scale would, in all probability, increase a country's comparative advantage, as relative costs of production fell even more.
- 5 It is usually assumed that the goods being traded are identical, such as barley, cotton, or bananas. However, problems arise with goods such as consumer durables. A Toshiba television will be different from a Phillips television and so it is much harder to prove that Japan has the comparative advantage in producing televisions.
- 6 It is usually assumed that factors of production remain in the country. However, it may be the factors of production, rather than the goods, that move from country to country. For example, developed countries, rather than exporting finished goods to LDCs, may invest capital in LDCs to enable goods to be produced there. Labour may migrate from low-wage to high-wage countries.
- 7 It is usually assumed that there is perfectly free trade among countries, but of course, in reality, there are likely to be government-imposed trade barriers in many industries.

In spite of its limitations, comparative advantage theory is at the core of international trade theory and goes a long way to explaining patterns of trade. Countries that specialize in producing goods in which they have a lower opportunity cost than other countries can capture the gains from trade listed at the beginning of this chapter.

The World Trade Organization (WTO)

The **WTO** is an international organization that sets the rules for global trading and resolves disputes between its member countries. The WTO was established on 1 January 1995 and now has 153 members and 30 observer countries, the majority of whom are seeking membership. It replaced the General Agreement on Tariffs and Trade (GATT), which had been set up after the Second World War. The WTO, along with its predecessor the GATT, is largely credited with the fact that, since 1947, average world tariffs for manufactured goods have declined from approximately 40% to 4%.

All WTO members are required to grant "most favoured nation" status to one another, which means that, usually, trade concessions granted by a WTO country to another country must be granted to all WTO members.



Aims of the WTO

The WTO aims to increase international trade by lowering trade barriers and providing a forum for negotiation.

The functions of the WTO are to:

- administer WTO trade agreements
- be a forum for trade negotiations
- handle trade disputes among member countries
- monitor national trade policies
- provide technical assistance and training for developing countries
- cooperate with other international organizations.

The WTO operates through a system of trade negotiations, or rounds. The first ones, held under the GATT, dealt mainly with the reduction of tariffs, but later negotiations included other areas such as anti-dumping legislation and non-tariff issues.

The current round of negotiations is called the **Doha round**, after the site of the meeting where negotiations were started in November 2001. The programme, called the Doha Development Agenda, covers many areas including agricultural tariffs, non-agricultural tariffs, trade and environment, anti-dumping, subsidies, competition policy, transparency in government procurement, and intellectual property.

The negotiations have been very contentious and, at the time of writing, no agreement has yet been reached, even though there were ministerial conferences in Cancun in 2003, Hong Kong in 2005, and Geneva in 2009. In July 2006, Doha round negotiations broke down and were ultimately suspended as a result of an inability to come to agreement on fundamental issues. There were two key concerns. First, the EU and the USA were being urged to reduce their agricultural subsidies to improve market access for developing countries' exports. Second, the more-developed countries wanted the larger developing countries, such as Brazil and India, to lower their barriers to imports of manufactured goods. Despite a widespread view that such measures will increase growth in all countries, there has so far been no success in reaching a compromise.

Student workpoint 21.4

Be an inquirer

The situation with the WTO and the Doha Development Agenda is continually changing. Research the current standing of negotiations and agreements. A good starting point for your research would be the official WTO site, www.wto.org.

Student workpoint 21.5

Be reflective—think ahead

In the next chapter, we will be looking at some of the barriers that countries put in place to effectively reduce international trade.

Given that there are so many benefits to be gained from trade, try to think of reasons why governments would want to prevent trade in any way.

END OF CHAPTER REVIEW QUESTIONS

To assess your understanding of international economics there will be data response questions on paper 2. In order to allow you to practise your understanding of the topics, we include short response questions at the end of each chapter.

- 1 Discuss the benefits that may be gained as a result of international trade.
- 2 Using a diagram, explain the concept of comparative advantage.
- 3 Explain two limitations of the model of comparative advantage.

Assessment advice

Make sure that you have relevant real world examples to support your answers.